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[54] Title: Steplessly Extendable Support Stand

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[57] What is claimed is:

1. A steplessly extendable support stand consisting of a stationary post, an extension pole, an adjustment sleeve, a set of positioning plunger and a control cap; wherein the body of stationary post is pipe-shaped, the lower-end thereof is provided with a plate for letting the post stand on the ground; the body of extension pole is also pipe-shaped and extendably fitted into the stationary post, the upper end thereof is provided with a plate or a plate having a flange for jacking and supporting a construction panel,
the support stand of the present invention is characterized by that:
 - (a) the stationary post is provided, on the upper section of the outside wall, with a square male thread for fitting the adjustment sleeve thereto;
 - (b) the extension pole is provided on the outside wall with plural protruded racks having arc teeth;
 - (c) the body of adjustment sleeve is a through-going barrel, the lower section of its inside wall is provided with a square female thread, the upper section of its inside wall is formed by a slant wall so as to form a space for receiving the set of positioning plunger, the upper section of its outside wall is provided with a male screw for fitting the control cap, the adjustment sleeve is fitted to the upper section of the stationary post by means of the square female thread formed on the lower section of its inside wall;
 - (d) the set of positioning plunger is formed by two half cone sleeves, of which the outside walls are respectively half round in horizontal section view, the inside wall of each half cone sleeve is respectively provided with ribs adapted to engage with the protruded racks formed on the outside wall of extension pole, the two half cone sleeves are combined together and disposed in the receiving space formed by the slant inside wall at the upper section of adjustment sleeve so that the extension pole may be braked by the ribs on the inside wall of positioning plunger to keep the extension pole extending out of the upper end of stationary post;
 - (e) the control cap is substantially an inverse U-shaped screw, the inside wall thereof is provided with a protruded ring for abutting against the set of positioning plunger, the control cap is screw-secured to the upper end of adjustment sleeve so

as to limit the lift space of the positioning plunger, and

(f) When the control cap is unscrewed, the extension pole is able to be freely and steplessly extended upward so as to jack and support the construction panel, while the control is screwdown, the lift space of the set of positioning plunger is limited, so that the extending or shortening movement of the extension pole may be braked by the positioning plunger, and on the other hand, when the control cap is unscrewed and the adjustment sleeve is lifted, the operation of jacking and supporting the construction panel by the support stand may be carried out in a short time, and when the adjustment sleeve is lowered and screwed, the operation of removing the support stand may be carried out easily.

Brief Description of the Drawing:

Fig.1 is a front view of the support stand of the present invention.

Fig.2 is a longitudinal cross-section view taken along the A-A' line of Fig.1.

Fig.3 is an enlarged detail drawing of longitudinal cross-section view taken along the B-B' line of Fig.1.

Fig.4 is a perspective view of some members of the present invention.

Fig.5 is a longitudinal cross-section view of the important mechanism of the support stand in the pulled out state.

Fig.6 is a longitudinal cross-section view of the important mechanism of the support stand in the fixed state after being pulled out or being shortened.

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[37] 申請專利範圍：

1. 一種無段伸縮式支撐柱，主要係由一固定桿，一伸縮桿，一調整筒，一組定位塞和一控制筒構成；其固定桿桿體，為一管形桿體，下終端固設一板，俾利承置於地面上；該伸縮桿桿體亦為一管形桿體，於上終端固設一板或具突台之板，以利頂撐固定建築模板，係插裝在該固定桿桿體中；其特徵在於：該固定桿，係於其桿體上終端外壁上設有一段方牙型陽螺紋，俾螺裝該調整筒用；該伸縮桿，係於其桿體之外壁上間設數排軸向弧形齒型之拱起狀齒條；該調整筒；其筒體為一管形貫穿筒，於下段內壁設有一段方牙型陰螺紋；於上段內壁則設為斜度筒壁，俾供承置該一組定位塞；而於其筒體上終端外壁上復設有陽螺紋，俾螺裝該控制筒；本調整筒筒體係藉該下段內壁之方牙型陰螺紋以螺裝在該固定桿桿體

的上終端上；

該一組定位塞，係以一圓形錐形筒由中央剖開分成兩半各為一近半圓型之弧形斜度塞體，於各塞體的內壁上，均分別設置與該伸縮桿桿體外壁上之拱起狀齒條吻合的數環突環，係於相對靠合後一齊裝入該調整筒筒體上端內側的斜度筒壁中，俾藉其內壁上的突環以掣制該伸縮桿桿體，使之保持作伸出該固定桿桿體上端的狀態；

該控制筒，其筒體為一概呈倒U形螺帽筒，於其筒體內側設有一突環，俾頂承該一組定位塞用；此一控制筒係螺裝在該調整筒上端，俾限定該組定位塞的向上浮昇位移空間；

於旋鬆該控制筒時，即可作向上無段自由拉出、伸長該伸縮桿操作頂撐建築模板的動作；於螺緊該控制筒時，則可限定該一組定位塞的向上浮昇位移空間，使該伸縮桿能受該一組定位塞之掣制，不致被作拉出、伸長或插

入、縮短的動作；而於螺鬆昇高該調整筒時，迅即可完成作頂撐固定建築模板的工作；又於螺緊降低該調整筒時，又迅即可作用畢拆卸下的工作。

圖示簡單說明：

第1圖為本創作之前視圖。

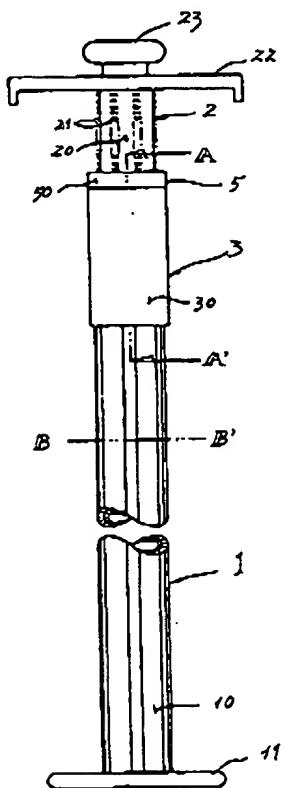
第2圖為於第1圖中之A-A'線位置縱截斷面放大詳圖。

第3圖為於第1圖中之B-B'線位置縱截斷面放大詳圖。

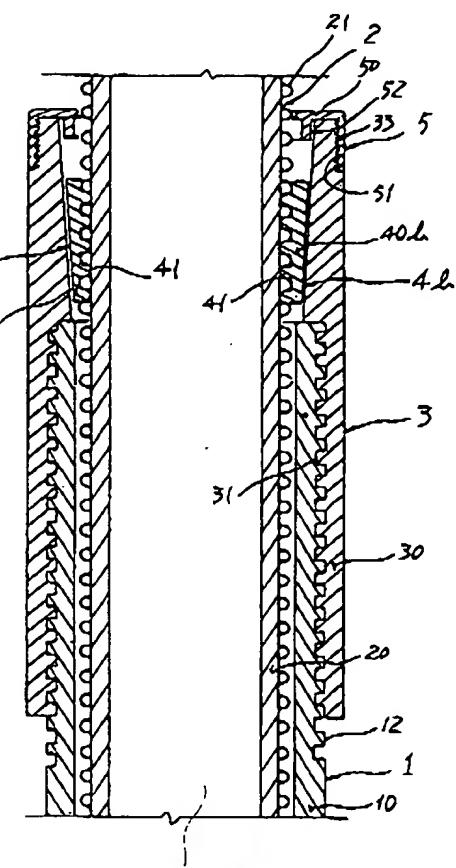
第4圖為本創作部份構件立體圖。

第5圖為本創作作拉出、伸長動作時之重點機構部份縱截斷面示意圖。

第6圖為本創作作拉出、伸長或插入縮短動作定位後之重點機構部份縱截斷面示意圖。

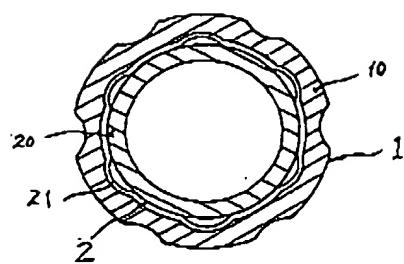


第一圖

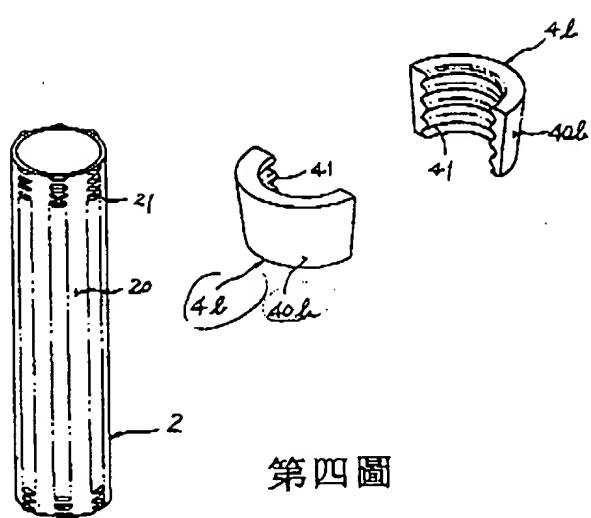


第二圖

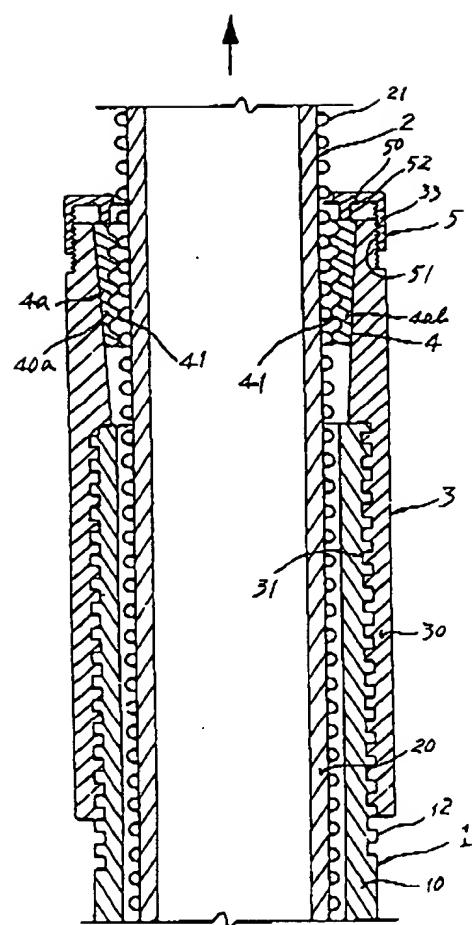
(3)



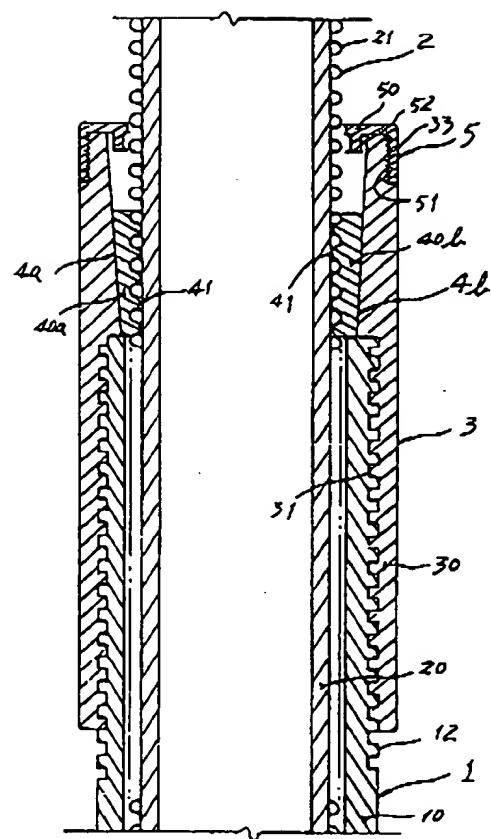
第三圖



第四圖



第五圖



第六圖

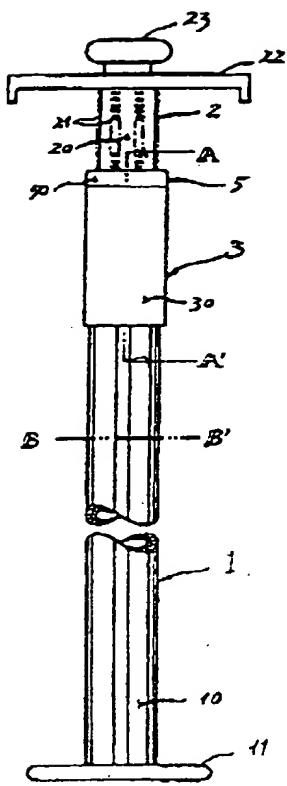


FIG. 1

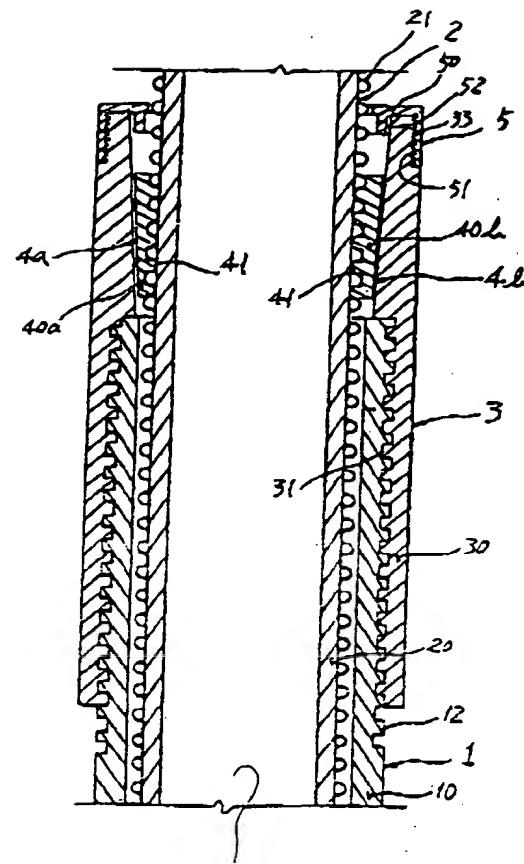


FIG. 2

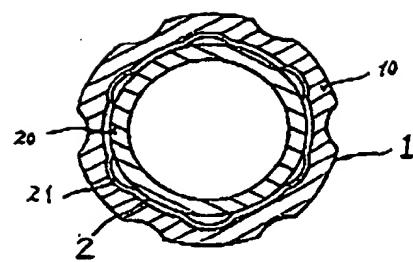


FIG. 3

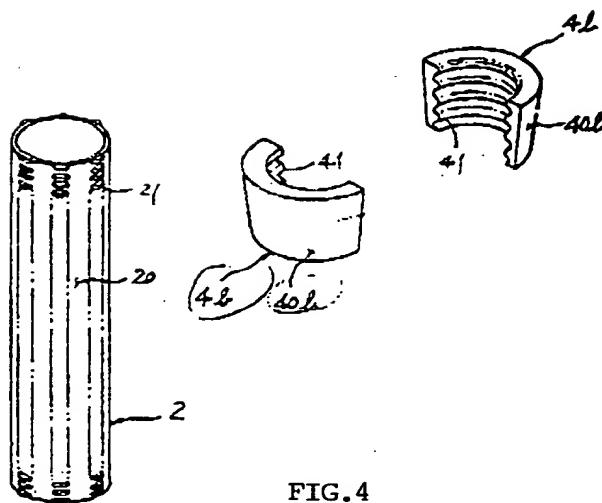


FIG. 4

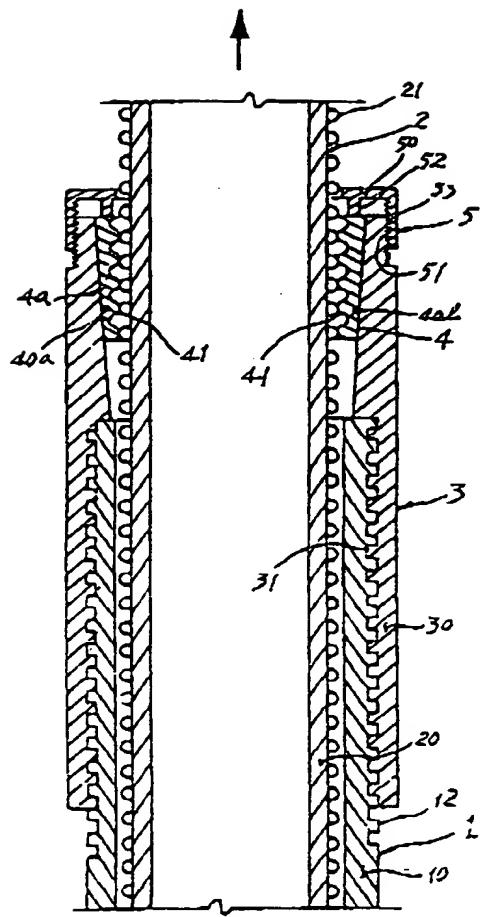


FIG.5

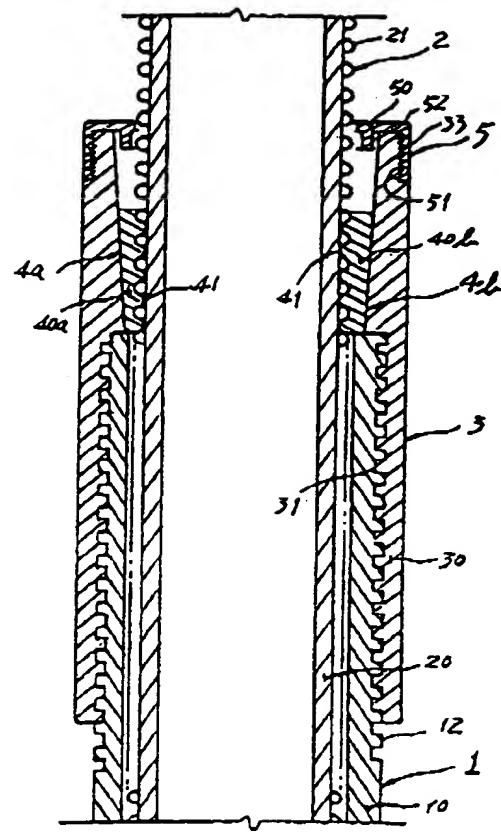


FIG.6